FIG. 1

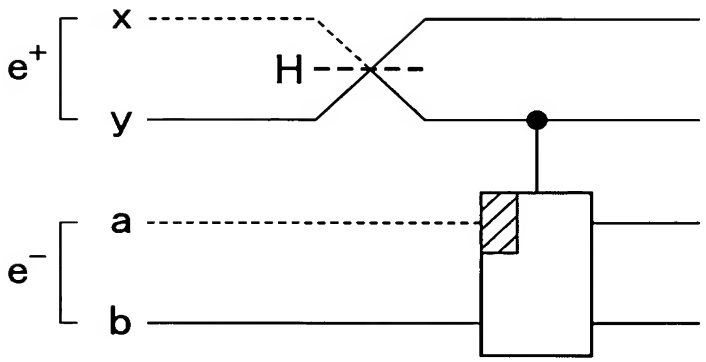


FIG. 2

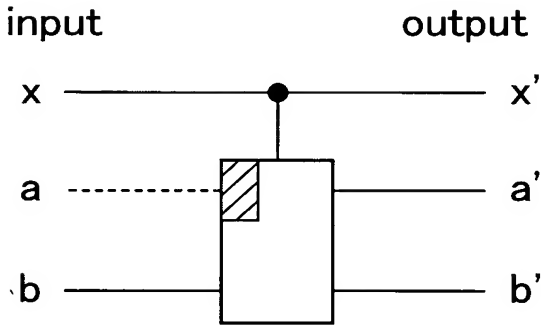


FIG. 3

input	output
$\|0\rangle_x \|0\rangle_a \|1\rangle_b$	$\|0\rangle_{x'} \|1\rangle_{a'} \|0\rangle_{b'}$
$\|1\rangle_x \|0\rangle_a \|1\rangle_b$	$\|1\rangle_{x'} \|0\rangle_{a'} \|1\rangle_{b'}$

FIG. 4

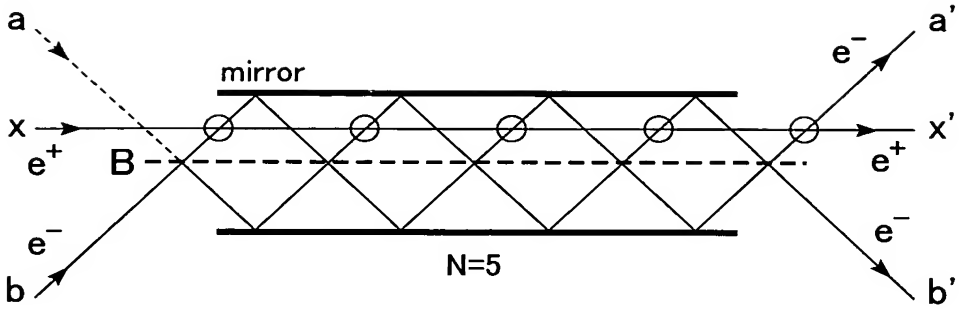


FIG. 5

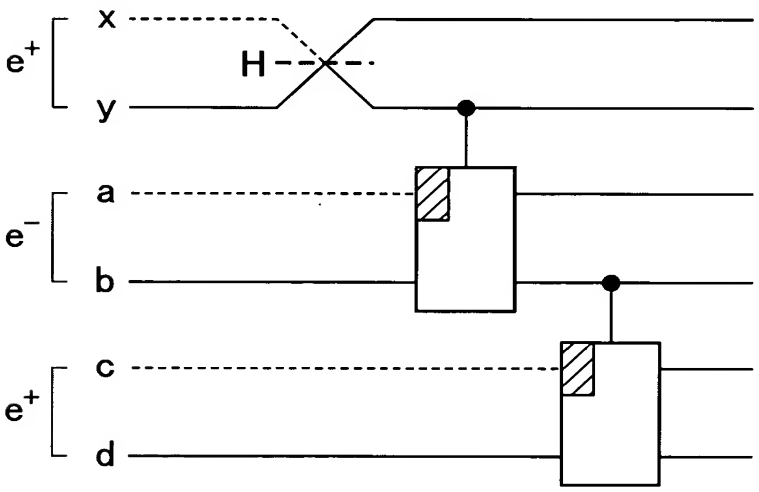


FIG. 6

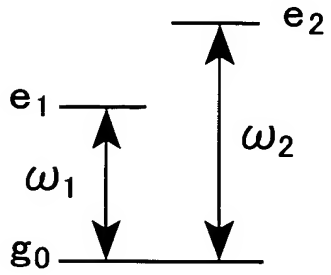


FIG. 7

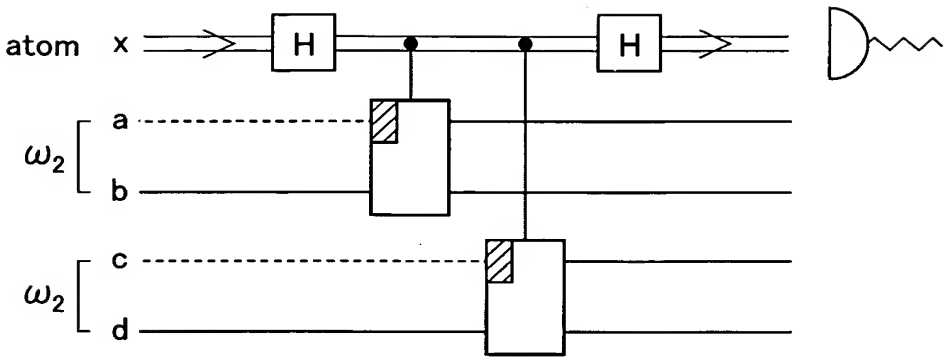


FIG. 8

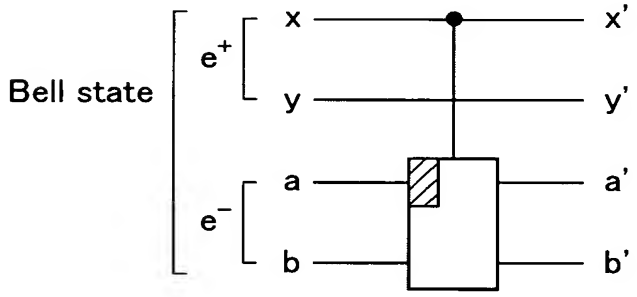


FIG. 9

input	output
$\|0\rangle_x\|0\rangle_a\|1\rangle_b$	$\|0\rangle_{x'}\|1\rangle_{a'}\|0\rangle_{b'}$
$\|1\rangle_x\|0\rangle_a\|1\rangle_b$	$\|1\rangle_{x'}\|0\rangle_{a'}\|1\rangle_{b'}$
$\|0\rangle_x\|1\rangle_a\|0\rangle_b$	$-\|0\rangle_{x'}\|0\rangle_{a'}\|1\rangle_{b'}$
$\|1\rangle_x\|0\rangle_a\|0\rangle_b$	$\|1\rangle_{x'}\|0\rangle_{a'}\|0\rangle_{b'}$
$\|1\rangle_x\|1\rangle_a\|0\rangle_b$	$\|\gamma\rangle_{x'a'}\|0\rangle_{b'}$

FIG. 10

	input	output
Φ	$\|0\rangle_x\|1\rangle_y\|0\rangle_a\|1\rangle_b$	$\|0\rangle_{x'}\|1\rangle_{y'}\|1\rangle_{a'}\|0\rangle_{b'}$
	$\|1\rangle_x\|0\rangle_y\|1\rangle_a\|0\rangle_b$	$\|\gamma\rangle_{x'a'}\|0\rangle_{y'}\|0\rangle_{b'}$
Ψ	$\|0\rangle_x\|1\rangle_y\|1\rangle_a\|0\rangle_b$	$-\|0\rangle_{x'}\|1\rangle_{y'}\|0\rangle_{a'}\|1\rangle_{b'}$
	$\|1\rangle_x\|0\rangle_y\|0\rangle_a\|1\rangle_b$	$\|1\rangle_{x'}\|0\rangle_{y'}\|0\rangle_{a'}\|1\rangle_{b'}$

FIG. 11

		Φ^+	Φ^-	Ψ^+	Ψ^-
1	I×I	Φ^+	Φ^-	Ψ^+	Ψ^-
2	A	Ψ^-	Ψ^+	Φ^-	Φ^+
3	B	Φ^+	Ψ^+	Φ^-	Ψ^-
4	C	Ψ^+	Φ^-	Φ^+	Ψ^-
5	BA	Ψ^-	Φ^-	Ψ^+	Φ^+
6	CA	Ψ^-	Φ^+	Φ^-	Ψ^+

$A=R_y(\pi)\times I$

$B=R_y(\pi/2)\times R_y(\pi/2)$

$C=R_x(\pi/2)\times R_x(\pi/2)$

FIG. 12

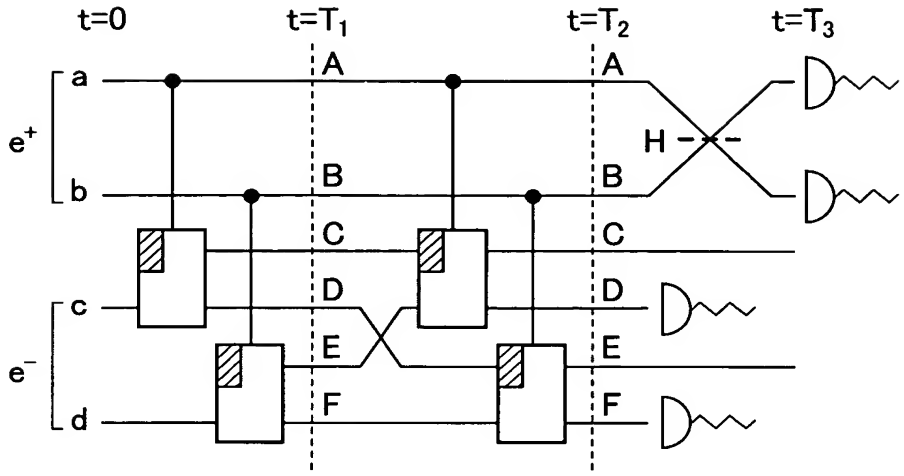


FIG. 13

t=0	t=T1	t=T2
$\|0\rangle_a\|1\rangle_b\|0\rangle_c\|1\rangle_d$	$\|0\rangle_A\|1\rangle_B\|0\rangle_C\|0\rangle_D\|0\rangle_E\|1\rangle_F$	$\|0\rangle_A\|1\rangle_B\|0\rangle_C\|0\rangle_E\|0\rangle_D\|1\rangle_F$
$\|0\rangle_a\|1\rangle_b\|1\rangle_c\|0\rangle_d$	$\|0\rangle_A\|1\rangle_B\|1\rangle_C\|0\rangle_D\|0\rangle_E\|0\rangle_F$	$-\|0\rangle_A\|1\rangle_B\|0\rangle_C\|1\rangle_E\|0\rangle_D\|0\rangle_F$
$\|1\rangle_a\|0\rangle_b\|0\rangle_c\|1\rangle_d$	$\|1\rangle_A\|0\rangle_B\|0\rangle_C\|0\rangle_D\|1\rangle_E\|0\rangle_F$	$\|1\rangle_A\|0\rangle_B\|0\rangle_C\|1\rangle_E\|0\rangle_D\|0\rangle_F$
$\|1\rangle_a\|0\rangle_b\|1\rangle_c\|0\rangle_d$	$\|1\rangle_A\|0\rangle_B\|0\rangle_C\|1\rangle_D\|0\rangle_E\|0\rangle_F$	$-\|1\rangle_A\|0\rangle_B\|0\rangle_C\|0\rangle_E\|0\rangle_D\|1\rangle_F$

FIG. 14

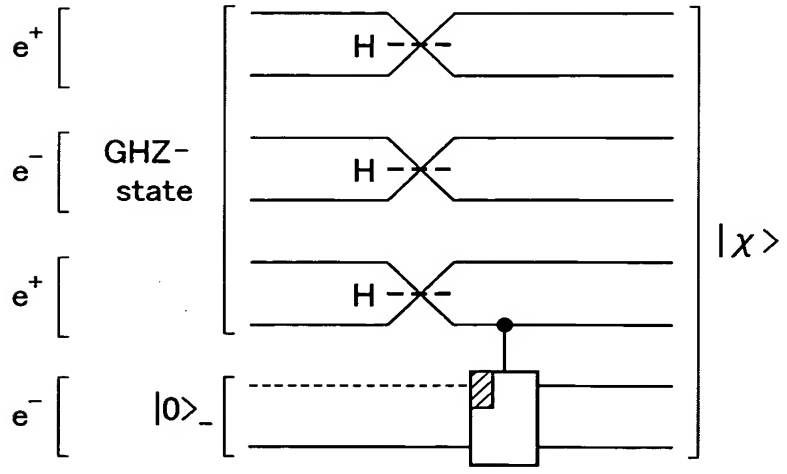


FIG. 15

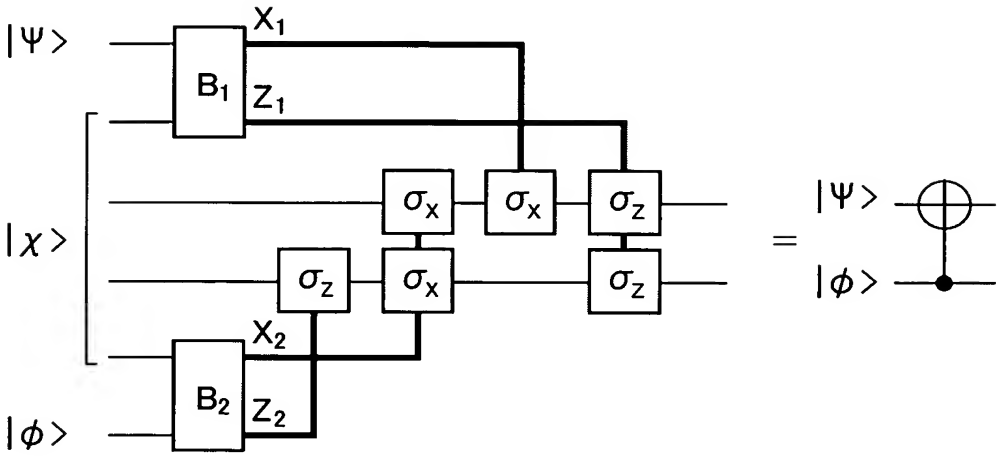


FIG. 16

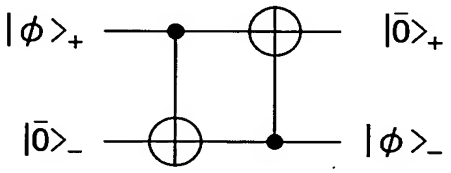


FIG. 17

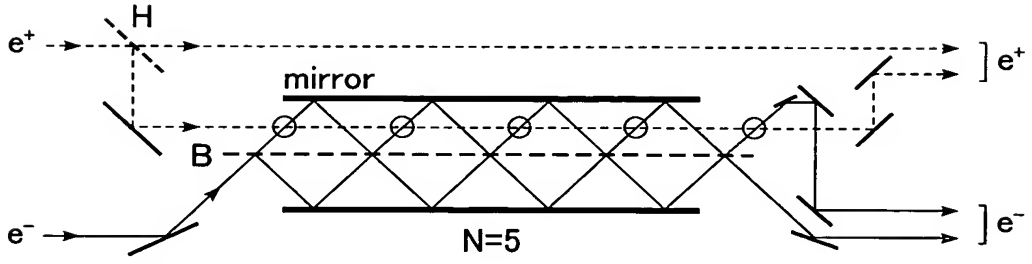


FIG. 18

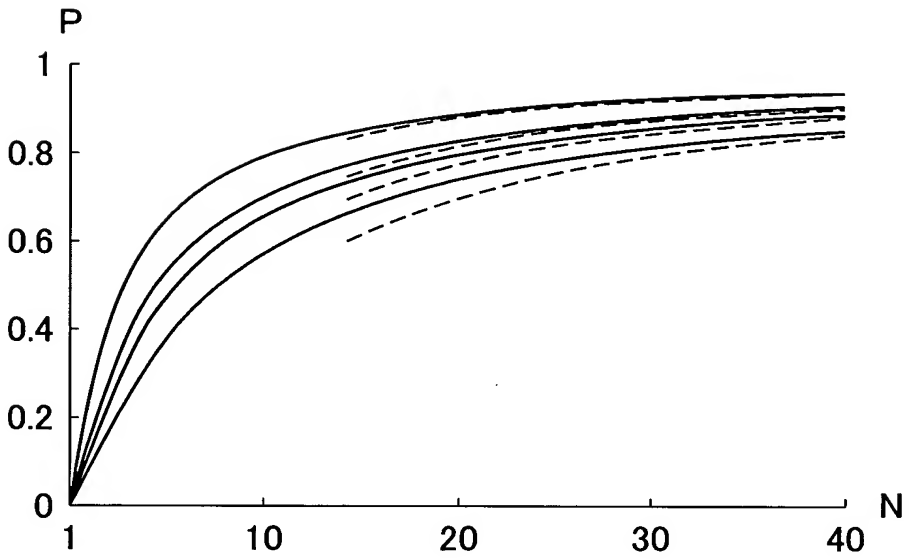


FIG. 19

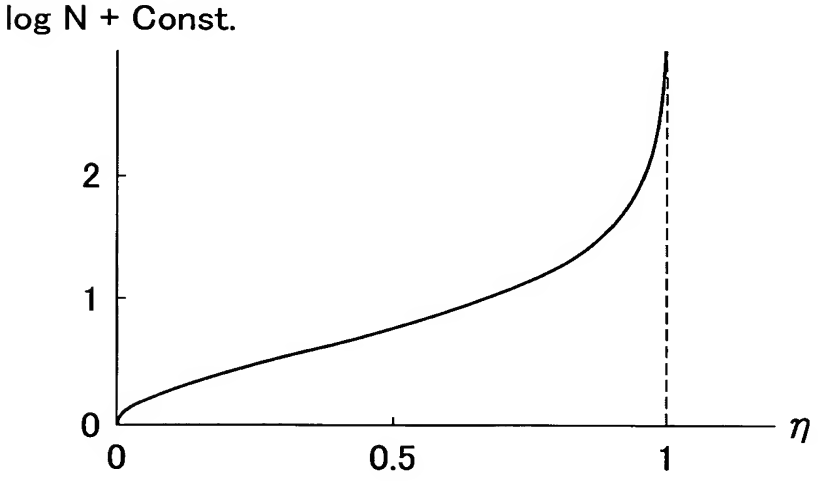
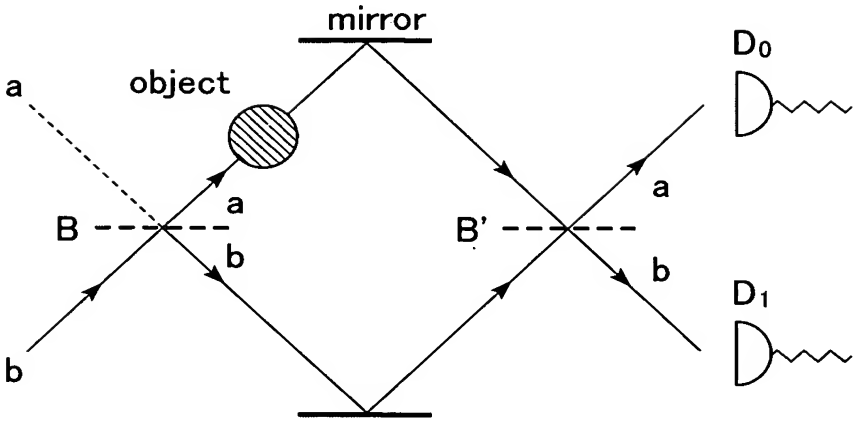
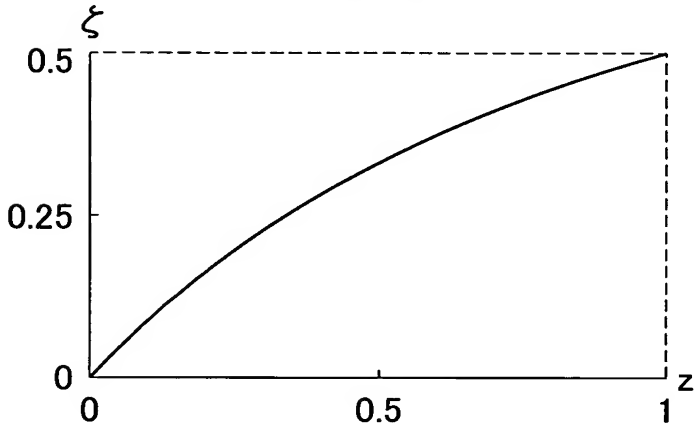


FIG. 20



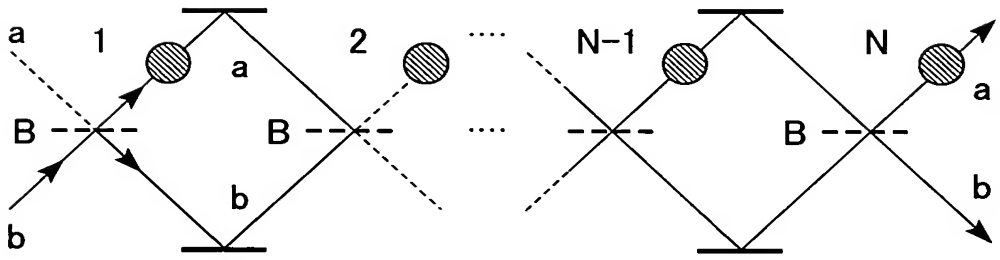
PRIOR ART

FIG. 21



PRIOR ART

FIG. 22



PRIOR ART